



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,057	07/11/2003	Takahiro Shimura	KAW-0040	4317

23413 7590 03/28/2005

CANTOR COLBURN, LLP
55 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

EXAMINER

CHERVINSKY, BORIS LEO

ART UNIT	PAPER NUMBER
----------	--------------

2835

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/618,057

Applicant(s)

SHIMURA ET AL.

Examiner

Boris L. Chervinsky

Art Unit

2835

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 19-35 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 5-8, 11, 13, 16, 33 and 35 is/are allowed.
6) ☐ Claim(s) _____ is/are rejected.
7) ☒ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 11 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4,9,10,12,14,15,17,18,19,20,21-32,34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al. in view of Jacoby.

Kimura discloses a heat sink having a base plate 10 made of thermally conductive material, a plurality of fins 3 formed on a surface of the base plate, at least one heat pipe 1 positioned in a heat pipe mounting portion such as hollow portion, portions in the vicinity of the heat pipe being crimped to join the heat pipe and the base plate (Fig. 5A-Fig. 6B); the heat pipe and fins are arranged in crossed directions; one end of the heat pipe is extended to be connected with another heat sink (see Fig. 11). Kimura discloses the claimed invention except fins being attached to the base plate by crimping. Jacoby discloses a heat sink having fins attached to the base plate by either slit or point crimping. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to attach fins as disclosed by Jacoby for the device disclosed by Kimura to provide efficient close pitch fins on the base plate. Kimura discloses the claimed invention except the fan. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have fan for sufficient cooling of fins as disclosed in prior art cited in US PTO Form 892 which is not

Art Unit: 2835

applied at this time. The prior art also shows the surface of the heat pipes being placed flush with the surface of the base plate or extending from that surface (see Chao, Prasher et al. and Shutou et al. references which are not applied at this time), therefore it also obvious. It would have been also obvious to one having ordinary skill in the art at the time the invention was made to use slit or point crimping methods since having the functional features of the claims which are limiting the method of manufacture, but do not provide the structure, which differentiates the final product from the product described in the prior art. The method steps of claims 19 and 20 are necessitated by the device structure as disclosed by Kimura et al. in view of Jacoby.

Allowable Subject Matter

3. Claims 5-8, 11, 13, 16, 33, 35 are allowed.

Response to Arguments

4. Applicant's arguments filed 03/04/05 have been fully considered but they are not persuasive. Applicant's argument that the condensation part as disclosed by Kimura is not the heat sink as claimed is not persuasive since the condensation part defines only the functionality of the heat sink but structurally includes all elements of the conventional heat sink: the base, the heat pipe inserted in the base and the fins extending from the base, which is designated as prior art in Fig. 16. In the examiner's view it is proper to combine the prior art of Fig. 16 and the heat sink as shown on Fig. 5A and Fig. 5B, and the fact that the fins are shown on both sides of the base is irrelevant since the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention

Art Unit: 2835

where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). Applicant's argument that Kimura does not teach the fins formed on one side of the plate and they are attached to the base plate by crimping is not convincing because it is clear that the fins are in fact attached by crimping and they are heat dissipating fins even if they are in form of pins. The prior art that is not applied for rejection at this time listed in US PTO 892 Form and is attached to the previous Office Actions shows the heat pipe and the fins being attached on opposite sides of the base plate of the heat sink (see Chao, Sagal, Prasher et al. and Garner references). Applicant's argument that Kimura does not teach heat pipe being crimped to join the base is not persuasive because the process as described in col. 7, lines 56-62 and shown by Fig. 5A and Fig. 5B constitutes crimping since the crimping defined in dictionary as "to seal by pressing together" or "to fold the edges to make a lock seam" (Webster College Dictionary). It also must be noted that the functional features of the claims which are limiting the method of manufacture in article claims, but do not provide the structure, which differentiates the final product from the product described in the prior art cannot be considered as limiting in patentable sense. The rejection is considered proper.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Boris L. Chervinsky whose telephone number is 571-272-2039. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild can be reached on 571-272-2800 ext. 35. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BORIS CHERVINSKY
PRIMARY EXAMINER

Boris L. Chervinsky
3/22/15